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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/900,924	07/10/2001	Rainer Hintsche	015200-066	8712

7590

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EXAMINER

FORTUNA, ANA M

ART UNIT

PAPER NUMBER

1723

DATE MAILED: 11/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

AS

**Office Action Summary**

Application No.

09/900,924

Applicant(s)

HINTSCHE, RAINER

Examiner

Ana M Fortuna

Art Unit

1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 06 August 2003.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-35 is/are pending in the application.
- 4a) Of the above claim(s) 14-34 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-3,5,8 and 10 is/are rejected.
- 7) ☒ Claim(s) 4, 6, 7, 9, 11-13, and 35 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)                      4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)                      5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_                      6) ☐ Other.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3, 5, 8, 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 91/04785 (hereinafter '785). Regarding claim 1 reference '785 discloses the separation device including the substrate having more than one through-opening, a porous perforated membrane film, an a semipermeable layer adhered to the membrane film (elements 11, 10, 20, Fig. 2). The support is disclosed as perforated, and made form a mesh or web made of fibers or filaments having penetrating holes (column 3, lines 29-34). The perforated membrane is disclosed as an anodic film grown on the substrate 11, which generally made of aluminum or an anodizable alloy, and contains pores or perforations (12) (page 4, last paragraph, pages 5, and page 6, liens 1-20). Regarding the semipermeable layer in the membrane of claim 1, layer 20, made or plastic (or polymeric material) and has perforations with a ratio or the size of the perforations to the thickness that allow the device to use in separation applications, and the perforations or pore of 0.1 micron for thin membranes (page 6, lines 21-35). Therefore, the layer 20 can be considered a polymeric microfiltration membrane. Reference '785 further discloses adhesion of the support (20) or membrane to the

anodic film or perforated membrane (10) (page 9, lines 8-36). As to claims 2, 3, 5, the membrane and support made from different materials is disclosed in reference '785 (page 6, lines 21-35), e.g. metal substrate, (page 2, last paragraph through page 3, first paragraph, page 5, lines 2-23, and page 8, lines 26-36), the thickness of the membrane (anodic film 10) is disclosed (page 7, lines 4-10). Regarding claim 3, the membrane (20) as polymeric is disclosed (page 6, paragraph 3). As to claims 8-10, the thickness of the membrane and the membrane as polymer layer and the pore size is disclosed in reference '785 (page 6, lines 3-35, page 7, lines 4-9). The separation or membrane device is not clearly disclosed as sensor device, however, separation membrane device is disclosed. The membrane is also disclosed as having the support or unsupported (page 7, lines 31-37, and page 8, first paragraph).

It would have been obvious to one skilled in the art at the time the invention was made to consider the device including all the elements as illustrated in Fig.3, e.g. for its use as electrodes, as suggested in '785 (column 10, lines 5-10). Reference '785 further discloses, when the substrate is separated from the membrane, incorporating the membrane into a composite structure, by integrally bonding the membrane to a layer of sintered inorganic particles; adhering the support to anodic films is also disclosed in the reference, therefore the membrane having more than two layers and including a substrate, e.g. an anodic layer can be obtained from the process of '785. Although the original substrate can be removed from the membrane, the substrate is originally adhered to the membrane, and the membrane can be further treated to form a composite including a lower layer of second substrate, therefore, it would have been


obvious to one skilled in the art at the time the invention was made to provide a membrane with a perforated membrane and semipermeable layer, or alternatively provide a further support or bond the original support to the membrane by conventional methods, e.g. to provide strength to the membrane, in particular when the membranes are very thin and unable to be unsupported.

5. Claims 4, 6, 7, 9, 11, 12, 13, and 35 would be allowable if rewritten to include all of the limitations of the base claim and any intervening claims. The separating element including the metallic film applied to one or both sides of the membrane is not disclosed; the silicon membrane of claim 6-7, the structure of claims 11-13, or the polymeric materials of claim 4 are not disclosed or suggested by the prior art of record.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ana M Fortuna whose telephone number is (703) 308-3857. The examiner can normally be reached on 9:30-6:00 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L. Walker can be reached on (703) 308-0457. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.



Ana M Fortuna

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Art Unit: 1723

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Primary Examiner  
Art Unit 1723

AMF  
November 03, 2003